# W. L. WALKER & B. G. DEVOE.

## GATE-HINGES.

No. 178,568. Patented June 13, 1876.

Fig. 2.

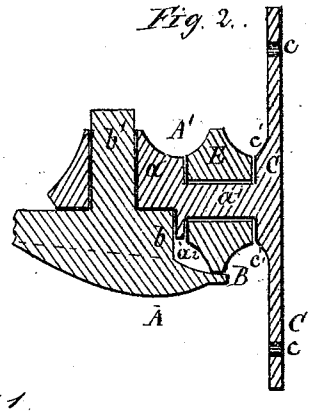
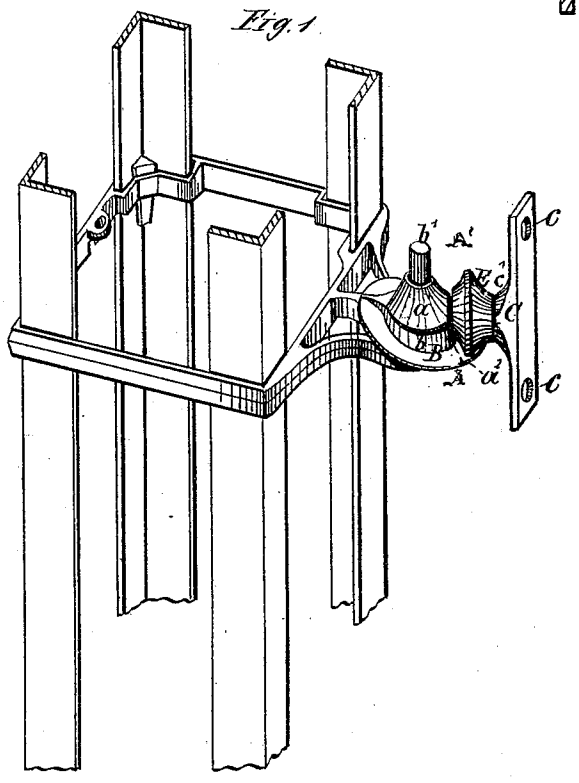



Fig. 1

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# UNITED STATES PATENT OFFICE.

WILLIAM L. WALKER AND BENJAMIN G. DEVOE, OF KENTON, OHIO.

## IMPROVEMENT IN GATE-HINGES.

Specification forming part of Letters Patent No. **178,568**, dated June 13, 1876; application filed February 24, 1876.

*To all whom it may concern:*

Be it known that we, WILLIAM L. WALKER and BENJAMIN G. DEVOE, both of Kenton, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in Gate-Hinges, of which the following is a specification:

Our invention consists in a novel method of forming and peculiar construction and arrangement of the two parts of a hinge, so as to make it automatic or self-shutting when affixed to a gate or similar device, whether opened inward or outward, as will be hereinafter more fully described and definitely claimed.

In the accompanying drawings, Figure 1 is a perspective view, and Fig. 2 a vertical longitudinal section, of a hinge constructed according to our invention.

The hinge proper is composed of the parts A $A^1$, the part A having a circular inclined plate or turn-table, B, formed on the shank, said turn-table having its greatest inclination at its forward or front edge, and is provided with a central circular or practically circular projection, *b*, which carries or which has formed thereon the pintle *b'*, and thus constitutes the pintle-block, the upper face of which is perfectly horizontal, so that the block has its greatest height or offset toward the forward or front portion of the turn-table, gradually diminishing until its rear portion is level with the rear portion of the turn-table and shank. The inclination of the plate or turn-table B, and the consequent elevation of the front part of the offset, are regulated by the rise it is desired to give to the gate when swung open to either side, such rise depending on the size of the wheel or roller E, which rides back and forth upon the turn-table, as will be explained presently. The female part $A^1$ of the hinge consists of an eye, *a*, shank $a^1$, and a strap or attaching-plate, C, all formed in one piece, the strap C being provided with the necessary screw or bolt holes *c* to screw or bolt the same to a gate or door. The shank $a^1$ is made round, and forms an axle upon which is mounted the wheel or roller E. The eye *a* is, by preference, not on the same plane with the axle, but forms a shoulder and downwardly-projecting lip or plate, $a^2$, against which bears the beveled wheel or roller E. The eye *a*, being on a plane slightly elevated from that of the shank, allows of the employment of smaller caster-wheels to give the gate the required rise, than would be the case where the shank and eye are on the same plane. The wheel or roller E is beveled so as to diminish its frictional contact with the inclined turn-table, and which construction also allows of a reduced area, upon which the wheel or roller travels around the pintle-block. The female part $A^2$, together with the wheel or roller E, is cast at one and the same time, thus forming practically but one piece. By this means a great amount of labor and expense is saved, while the parts may be made much stronger than would be the case if the eye or the strap were made separate, and screwed or otherwise affixed to the axle-shank after the roller is mounted thereon. The strap or attaching-plate C is further provided on its rear face with an enlargement, *c'*, which serves as a frictional surface, against which the hub or enlarged center of the wheel or roller E bears.

It will be readily understood from the above description in what manner the devices act to automatically shut the gate, or other similar device when opened in one or the other direction, the parts being in position, as shown by Fig. 1, and need not be particularly explained, though we would remark that an essential improvement is obtained by the construction of the hinge, as above described—that is to say, when the gate is swung open in either direction, and the beveled wheel or roller E rides back on the inclined turn-table, the eye of the hinge is raised from off the pintle-block, thus transferring the whole weight of the gate upon the wheel or roller when the gate is swung open, and the former rides back upon the inclined turn-table and supports such weight and strain until, when the gate is released, it rides down the incline again to its normal closed position.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The part $A^1$, in combination with the wheel or roller E, when cast at one and the same time, so as to form practically one piece,

substantially as described, and for the purposes specified.

2. An automatic or self-shutting hinge, consisting essentially of the part A, provided with the inclined plate B, carrying the pintle-block *b* and pintle *b'*, in combination with the part $A^1$, consisting essentially of the eye *a*, axle-shank $a^1$, the strap or attaching-plate C, and the roller or wheel E, having its faces beveled off toward the center of its periphery, cast together, and practically formed of one piece, substantially as described, for the purpose specified.

In testimony that we claim the foregoing we have hereunto set our hands this 7th day of February, 1876.

WILLIAM L. WALKER.
BENJAMIN G. DEVOE.

Witnesses:
JOHN MCCOLLOUGH,
J. B. BALES.